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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,765	11/17/2006	Roger Stanley Bushby	081193-000000US	3893

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EXAMINER

LIN, KUANG Y

ART UNIT	PAPER NUMBER
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1793

MAIL DATE	DELIVERY MODE
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12/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,765	Applicant(s) BUSHBY, ROGER STANLEY	
	Examiner Kuang Y. Lin	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-24 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-24 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/26/09</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1793

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19-24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,887,643 to Nakamura et al. and further in view of JP 62-238,062.

Nakamura et al. show a method of casting squirrel-cage rotor. The method includes the step of placing the rotor core into an inside mold (24b, 26b); placing the inside mold (24b, 26b) within the chamber formed by the outside mold (24a, 26a); injecting molten metal from the pouring gate (16) into the inside mold cavity; and then applying pressure to the solidifying metal to form the squirrel cage. Thus, Nakamura et al. substantially show the invention as claimed except that they do not show to preheat the mold. However, JP '062 shows to preheat the casting mold thus that to facilitate the metal matrix composite article forming process. It would have been obvious to also preheat the mold of Nakamura et al. in view of the advantage. It would have been obvious to obtain the optimal mold temperature through routine experimentation. With respect claim 20, since the inside mold of Nakamura et al. is separable from the outside mold, it would have been obvious to remove the inside mold from outside mold after solidification process thus that to speed up the cooling process. With respect to claim 24, it would have been obvious to obtain the optimal pressure in the process of Nakamura et al. through routine experimentation. With respect to claim 31, it

Art Unit: 1793

would have been obvious to form the inside mold and outside of Nakamura et al. with any configuration and removing the inside mold from the outside mold with any manner as long as both molds do not interference with each other during process of separating of the inside mold from the outside mold.

3. Applicant's arguments filed October 26, 2009 have been fully considered but they are not persuasive.

Applicant's main argument is that none of the prior art reference shows the claimed feature that the first part of the die is heated to a temperature above the liquidus temperature of the metal whilst maintains the second part of the die at a temperature below the liquidus temperature of the metal. However, JP '062 does disclose to heat the first part of the die 5 to the melting point of the metal (see page 366, last para. of lower left col.) to facilitate the infiltration process. Further, US 6,360,809 to Cornie et al. provide an evidence that it is a common practice to preheat the mold to a temperature above the liquidus temperature to prevent premature solidification of the molten infiltrant (see col. 18, line 56 through col. 19, lines 4). It is apparent that the second part of the die of Nakamura et al. or JP '062 is maintained or it would have been obvious to maintain it at lower temperature to speed up the cooling process.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 1793

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica L. Ward can be reached on 571-272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kuang Y. Lin/

Application/Control Number: 10/599,765

Page 5

Art Unit: 1793

Primary Examiner, Art Unit 1793

12-14-09